

## REMARKS

In the above referenced case, claims 233-235, 237-249, 251-263, 265-277, and 279-288 are pending. Applicant will sequentially address the issues raised by the Examiner.

### I. Claim Objections

Claims 237-238, 251-252, 265-266, and 279-280 were objected to as allegedly rendering element [c] of their respective independent claims redundant. These dependent claims have been canceled and these objections are now moot.

Claims 239-240, 253-254, 267-268, and 281-282 were objected to for certain typographical errors. These errors have been corrected.

### II. The 35 U.S.C. §103 Rejections

Claims 233-234, 236-248, 250-262, 264-276 and 278-288 were rejected under 35 U.S.C. §103(a) as being unpatentable over Atarashi et al., U.S. Patent No. 5,172,254 (“ATARASHI”) in view of Baur et al., U.S. Patent No. 5,115,305 (“BAUR”).

#### A. Claim 233

Element [c] of claim 233 recites “rotating the second selected predetermined orientation of a chosen component of the electromagnetic wave field vectors of the primary second resolved beam of electromagnetic energy to be substantially the same as the first selected predetermined orientation of a chosen component of the electromagnetic wave field vectors of the primary first resolved beam of electromagnetic energy.” The Examiner agreed that ATARASHI does not disclose this element. The Examiner relied on BAUR for allegedly disclosing this element. Applicant respectfully traverses the rejection for the following reasons.

1. Combination of ATARASHI and BAUR is Incorrect

a. Inoperative Combination/Modification

A proposed modification that would render the prior art inoperable cannot render a claim obvious. See MPEP 2143.01(5<sup>th</sup> subsection) and MPEP 2145 (section III, last paragraph).

Similarly, a proposed modification (or combination) of the prior art that would change the principle of operation of the prior art invention being modified, also cannot render a claim obvious over such modification. See MPEP 2143.01(6<sup>th</sup> subsection).

The Examiner stated that it would have been obvious to modify the projector of ATARASHI by adding the half-wave plate 33 of BAUR to the beam splitter 13 of ATARASHI to thereby rotate the polarization of half of the light (split by the beam splitter 13 of ATARASHI) to the same polarization as the other half of the light. However, doing so would both render the ATARASHI projector effectively inoperable and change the principle of operation of ATARASHI.

If, for example, we were to attach a half-wave plate to the vertical side of the beam splitter 13 in ATARASHI, the split P-polarized light would be rotated to become S-polarized light. This S-polarized light would be subsequently processed by other optical components (e.g., LCDs 15BP, 15GP, 15RP, etc.) but would not combine with the other half of the light at the beam splitter 17. That is, the S-polarized light from the dichroic mirror 21RP to the beam splitter 17 would be reflected by the beam splitter 17 and would not combine with the S-polarized light from mirror 18. Consequently, half of the source light will be wasted which will greatly reduce the brightness of the projector, thus, rendering the ATARASHI projector effectively inoperable.

The Examiner appeared to suggest that a second half wave plate may also be attached to the beam splitter 17 in ATARASHI to again rotate the polarization of the split light back to its original polarization. However, such a practice cannot be obvious to one skilled in the art (e.g., who is determining potential modifications to

ATARASHI) because it is not logical. Placing two half-wave plates in ATARASHI (i.e., one at each beam splitter) would increase cost without achieving anything more (or different) than what the ATARASHI projector is already accomplishing.

Further, the output beams of the ATARASHI projector and the BAUR projector are different. In ATARASHI, the output beam (from beam splitter 17) comprises red, green and blue lights of both p and s polarizations. In contrast, the output beam in BAUR (beam 92), comprises green and blue lights of only s polarization and red light of only p polarization. Thus, adding a half-wave plate to the ATARASHI projector would alter the output beam in ATARASHI and thereby change the principle of operation of ATARASHI.

As demonstrated above, adding a half-wave plate as disclosed in BAUR to the beam splitter 13 in ATARASHI would both render ATARASHI's system inoperable, as well as change the principle of operation of ATARASHI. Thus, the combination of ATARASHI and BAUR is incorrect and cannot render claim 233 obvious.

B. Claims 234-235 and 237-246

Claims 234-235 and 237-246 are dependent on claim 233. Based on the foregoing arguments for claim 233, these dependent claims should also be in condition for allowance.

C. Independent Claims 247, 261, and 275

Independent Claims 247, 261, and 275 recite limitations similar to element [c] of claim 233. Based on the foregoing arguments for claim 233, these independent claims should also be in condition for allowance.

D. Claims 248-249 and 251-260, 262-263 and 265-274, 276-277 and 279-288

Claims 248-249 and 251-260, 262-263 and 265-274, 276-277 and 279-288 are dependent on claims 247, 261, and 275, respectively. Based on the foregoing

regarding claims 247, 261, and 275, these dependent claims should also be in condition for allowance.

E. Rejections over ATARASHI, BAUR, and KONNO

Dependent claims 235, 249, 263 and 277 were rejected under 35 U.S.C. §103(a) as being unpatentable over ATARASHI in view of SATO, and further in view of Konno et al., U.S. Patent No. 4,497,015.

Based on the foregoing arguments regarding independent claims 233, 247, 261, and 275, Applicant respectfully submits that these §103 rejections are now moot and these dependent claims are in condition for allowance.

III. Conclusion

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance. Should the Examiner believe that a telephone interview would help advance the prosecution of this case, the Examiner is requested to contact the undersigned attorney.

Respectfully submitted,

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